

adsorption device, to a primary adsorption device, and to a desorption device in sequence;

feeding the mixtures of hydrocarbon isomers to at least one of the columns functioning as the primary adsorption device such that isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers are adsorbed;

feeding an entire effluent of the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the primary adsorption device to at least one of the columns functioning as the secondary adsorption device such that remaining of the isomers with a greater selectivity towards the molecular sieves are adsorbed;

discharging isomers with a lower selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the secondary adsorption device and a desorbing agent remaining therein;

b) feeding a desorbing agent to at least one of the columns functioning as the desorption device;

discharging isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers and the desorbing agent in the at least one of the columns functioning as the desorption device;

feeding the isomers with a lower selectivity towards the molecular sieves and the desorbing agent discharged from the at least one column functioning as the secondary adsorption device to a first distillation unit configured to recover the desorbing agent for recycling for the at least one column functioning as the desorption device;

feeding the isomers with a greater selectivity towards the molecular sieves and the desorbing agent discharged from the at least one of the columns functioning as the desorption device to a second distillation unit configured to recover the desorbing agent for recycling for the at least one of the columns functioning as the desorption device; and

B1 rotating the columns from the secondary adsorption device, to the primary adsorption device, and to the desorption device in sequence.

---

6. (Amended) A process for separating mixtures of hydrocarbon isomers in gas phase on molecular sieves, comprising the steps of:

providing a plurality of columns each including molecular sieves and configured to function alternately such that the columns are designated to function from a secondary adsorption device, to a primary adsorption device, and to a desorption device in sequence;

feeding the mixtures of hydrocarbon isomers to at least one of the columns functioning as the primary adsorption device such that isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers are adsorbed;

B2 feeding an entire effluent of the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the primary adsorption device to at least one of the columns functioning as the secondary adsorption device such that remaining of the isomers with a greater selectivity towards the molecular sieves are adsorbed;

discharging isomers with a lower selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers from the at least one of the columns functioning as the secondary adsorption device and a desorbing agent remaining therein;

feeding a desorbing agent to at least one of the columns functioning as the desorption device;

discharging isomers with a greater selectivity towards the molecular sieves in the mixtures of hydrocarbon isomers and the desorbing agent in the at least one of the columns functioning as the desorption device; and

rotating the columns from the secondary adsorption device, to the primary adsorption device, and to the desorption device in sequence.

---